BOOK NOTICES

Aquatic Plants of the United States

Fourth in the series of American Natural History Handbooks from Cornell University is a volume on aquatic plants of the United States by Prof. W. C. Muenscher. Treatment is given those species of vascular plants "which normally start in water and must grow for at least a part of their life cycle in water, either completely submersed or emmersed."

The book includes an introduction, key to 50 families, brief family descriptions, generic and specific keys, with statements of habitat and range of each species. References to other literature are appended to some discussions of families and genera.

The outstanding feature of the work is the assemblage of excellent illustrations by Miss Abbe and Mr. Nickau. Almost all of the approximately 450 species treated, are figured. Most of the drawings are habit sketches, but many show details of flowers, fruits, seeds, roots, seedlings, pollen grains and other specialized or diagnostic characters. Distributions within the U. S. are stated in the text, but also are indicated by maps by states. Some of the maps are misleading because of incomplete data. Maps showing occurrence of species in every state seem unnecessary.

The brief introduction includes a few random notes on distribution, reproduction, storage and treatment of seeds for planting, and weight of seeds. Nothing exhaustive is presented. The discussion of reproduction, for example, includes two sentences. Portions are redundant. The data in Table 1, p. 4, could have been stated in one sentence.

Difficulty will be met in using the keys, since characters absent at flowering time in many species are referred to. While the descriptions show no improvement over those already extant, especially with regard to terminology, the author's notes from wide field experience are of interest. The figures, however, appear to be the useful part of Professor Muenscher's work which is, in all, a worthwhile compilation of information concerning some of the aquatic plants of the United States.

Aquatic Plants of the United States. Walter Conrad Muenscher. Comstock Publishing Co., Inc. Cornell University. Ithaca, N. Y. 364 pp., 157 plates, 400 maps, glossary, index. Price $5.00. 1944.

Coat-Color Change in Weasels

In this study the authors tested the effects of the duration of light upon the seasonal coat-color changes of weasels. The length of the light period in the day and night cycle was controlled by the use of artificial illumination and shifting the caged animals into a dark room. Control animals were maintained in each experiment. Individuals of two different species of weasels were used for this study: *Mustella frenata noveboracensis*, the New York Weasel, and *M. cicognanii cicognanii*, Bonaparte's Weasel.

Changes of coat color in both species was accomplished by shedding of old hair and the growing out of new hair of a lighter or darker shade. This coat-color change was found to follow a pattern upon the body. In general this was from the ventral towards the dorsal surface.

Periods of reduced light duration induced moulting and the regrowth of hair of a lighter shade. Increasing the duration of daylight also induced moulting and the regrowth of hair of a darker shade. By reversal of increase or decrease of the daily light duration, incomplete mounts were obtained in both directions. By proper manipulation of the direction of light duration changes, it was possible to leave an animal for some time with parts of its body covered with hairs from three consecutive growths of hair.

The data from this study indicates that temperature change was not a factor in pelt modification or color cycles in these two species of weasels. Following Bissonnette's work on ferrets and Lyman's study of the varying hare the authors express the opinion that the stimulus for coat-color modification is received through the eyes and probably acts through the anterior lobe of the pituitary gland; also that the thyroids and sex glands are not essential to elicit this response.

—*Wilbur M. Tidd.*

Experimental Modification and Control of Moults and Changes of Coat-Color in Weasels by Controlled Lighting, by Thomas Hume Bissonnette and Earl Elmore Bailey. Annals of The New York Academy of Sciences, Volume XLV, Art. 6. Pages 223–260, 7 pls., 1 graph. April 7, 1944. Published by The New York Academy of Sciences, Central Park West at Seventy-ninth Street. Price $0.75.